

## **REMARKS**

Claims 1-37, 44-50 and 55-57 remain pending in the present application.  
Reconsideration of the above referenced application is respectfully requested.

Independent claims: 1, 32, 37 and 44

Dependent claims: 2-31, 33-36, 45-50 and ~~55-57~~ <sup>57</sup>

After entry of the enclosed amendment, claims 1-37, 44-50 and 55-57 remain in the pending application. Claim 57 has been added in this communication.

Applicant thanks the Examiner for her time during the interview at the USPTO on January 23, 2007.

### **35 U.S.C. §112 Rejection of Claims**

The Examiner has rejected claims 1, 16, 17, 18, 21, 32, 37, 44, 55 and 56 as being indefinite for using the term "co-binder". Applicant has amended the Claims rendering this ground of rejection moot.

Applicant has amended the rejected Claims containing the co-binder for the Examiner's understanding. The term co-binder merely refers to a single binder, such as a thermosetting resin or other exemplary binder described in the patent. For the Examiner's convenience all of the claim terms have been amended to clear any perceived confusion on the part of the Examiner. Accordingly, the Examiner is respectfully requested to withdraw this ground of rejection.

The Examiner has rejected Claim 21 as being indefinite. Applicant has amended Claim 21 rendering this ground of rejection moot. Further Applicant has added Claim 57 as a result of the amendment to Claim 21.

### **35 U.S.C § 102 Rejection of Claims**

The Examiner has rejected Claims 1, 2, 9, and 26 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent 5,272,000 to Chenoweth. Applicant respectfully traverses this ground

of rejection.

The Examiner alleges that Chenoweth teaches an article such as an automobile headliner which is comprised of an organic man-made fiber such as polyester, and inorganic man-made fiber such as fiberglass, a binder such as a phenolic resin, a natural material such as wood fibers and a homogeneous mixture. The Examiner further alleges that Chenoweth includes a polymeric film affixed thereto.

Applicant has amended the claim element at issue to recite pure cellulose. Chenoweth fails to describe cellulose. Chenoweth states at column 4, line 45:

the term fibers and the expression natural fibers is used broadly with regard to wood inasmuch as the cellular structure (xylem) of the wood is fibers but, depending upon the wood treatment process, that is, sawing, chipping, grinding, braiding, etc., utilized to produce them, they may be in the form of fibers, particles, flour, dust, powder, etc.

The products described in the passage are all formed from mechanical processes from wood (xylem) in order to produce “fibers, particles, flour, dust, powder, etc.” In other words, these ground products (xylem) are all formed from wood (xylem) which is mechanically processed. Xylem is defined as the woody part of plants: the supporting and water-conducting tissue, consisting primarily of tracheids and vessels. See [www.dictionary.com](http://www.dictionary.com) citing WordNet® 2.1, © 2005 Princeton University. The word “xylem” is derived from classical Greek ξυλον (*xylon*), “wood”, and indeed the best known xylem tissue is wood, though it is found throughout the plant. <http://en.wikipedia.org/wiki/Xylem>.

To the contrary, cellulose is not a ground form of wood (xylem). Cellulose is defined as a polysaccharide  $(C_6H_{10}O_5)_x$  of glucose units that constitutes the chief part of the cell walls of plants, occurs naturally in such fibrous products as cotton and kapok, and is the raw material of many manufactured goods (as paper, rayon, and cellophane). Merriam-Webster's Medical Dictionary, © 2002 Merriam-Webster, Inc. Cellulose is formed through a specific process. Cellulose does not exist in a free state within xylem. Xylem must be processed or separated by breaking the bond between cellulose and lignin, for instance by at least grinding and soaking. Such processing involves more than the mere mechanical “sawing, chipping, grinding, braiding,

etc.” described in the Chenoweth reference. Further, as discussed with the Examiner, Chenoweth teaches use of natural wood chips which appear to be merely used as an inexpensive filler material for the product. To the contrary, Applicant teaches the use of pure cellulose, rather than wood chips.

The following description clearly indicates that the wood fibers described in the Examiner’s cited reference are distinguishable from cellulose, as claimed in the pending application. Cellulose is a long-chain polymeric forming a primary structural component of green plants. The cellular wall of green plants (xylem) is made of cellulose and lignin. Together cellulose and lignin form lignocellulose, which is commonly referred to as wood. In order to form cellulose several process steps must occur to further breakdown the wood (xylem). First, the bark is removed from the wood in a water stripping process. Next, the cellulose fibers that hold the wood together must be separated. The wood is crushed and soaked to produce ground wood. The wood can be crushed with refiners using steam at high pressure in temperature to produce thermomechanical pulp which differs from ground wood. Further, chemicals may be utilized to break up the cellulose fibers and produce chemithermomechanical pulp. These pulps all still contain lignin.

Chemical pulp may also be produced by combining chemical and wood chips in large vats. Heating of the chemical and wood chips in the vat dissolves the lignin that binds the cellulose fibers together. Thus, in order to form cellulose, the lignin must be separated from the forms of pulp described above (ground wood, thermomechanical pulp, or chemithermomechanical pulp) in order to produce cellulose alone. See [www.en.wikipedia.org/wiki/cellulose](http://www.en.wikipedia.org/wiki/cellulose) and [www.en.wikipedia.org/wiki/woodpulp](http://www.en.wikipedia.org/wiki/woodpulp). The cellulose fibers may have the size characteristics described in the application. Once the cellulose is formed, one skilled in the art will understand the fibers may be pressed and entangled into a paper-like form, still as a pure cellulose, and ground to desirable sizes for use in the Applicant’s sound absorbing material.

To further clarify the claim language and reduce any confusion for the Examiner, Applicant has amended the instances of the term “a cellulose material” and changed the language

to “pure cellulose fibers”. Pure cellulose fiber does not contain xylem tissue or xylem derivatives such as lignins, which are released during the process of making cellulose. The pure cellulose fibers may be separated or entangled, for example in a heat pressed form, and processed to a desired size, which may vary, but still be in the pure cellulose form as one of ordinary skill in the art will understand. Accordingly, such amendment clearly removes Chenoweth as an anticipatory reference. Chenoweth describes mechanically processed wood or xylem fibers which still contain lignins and other fibers rather than pure cellulose.

As indicated above, pure cellulose, as currently claimed in the application, is patentably distinct from the wood chips taught by the Chenoweth reference. Cellulose is not described or suggested by Chenoweth. For the above reasons, Applicant respectfully requests this ground of rejection withdrawn.

### **35 U.S.C. §103 Rejection of Claims**

Examiner has rejected Claims 3, 6-8, 10, 13-19, 21-23, 25, and 29-31 under 35 U.S.C. §103(a) as being unpatentable over Chenoweth. Applicant’s attorney respectfully traverses this ground of rejection. Examiner alleges that Chenoweth suggests the use of polyester fibers of a length rendering the Applicant’s range obvious to one of skill in the art. Regarding Claim 6, 7, 13, 14, 16-19, and 22-23, the Examiner alleges that Chenoweth shows various fibers and binders can be successfully provided in percentages by weight that at least overlap the ranges claimed in the present application and therefore would have been obvious to one of ordinary skill in the art. With reference to Claim 8, the Examiner alleges that Chenoweth teaches synthetic fibers from 1-15 deniers overlapping the range claim by the Applicant. The Examiner further alleges that, with regard to Claim 10, Chenoweth suggests the use of rotary fiberglass with a diameter that overlaps the claimed range. The Examiner further alleges that Chenoweth suggests the use of epoxy as a binder. With regard to Claim 25, the Examiner alleges that Chenoweth suggests the use of cellulose fibers having a diameter and length overlapping the claimed range. With regard to Claims 29-31, the Examiner alleges that Chenoweth expressly suggests the use of spun bonded polyester as material of layer 36 and that any such polyester fabric layer would have been obvious to use for its intended desired function as suggested by the reference.

The previously recited claims all depend from Claim 1 which, as also previously described, is believed to be patentable over the Chenoweth reference. Chenoweth fails to teach pure cellulose fibers in a homogeneous mixture defining an improved sound-absorbing material. Mechanically processed wood, as described in Chenoweth, is not cellulose. The Examiner's §103 rejection of Claims 2, 6-8, 10, 13-19, 21-23, 25, and 29-31 fail to resolve the missing teachings asserted by the Applicant in describing the rejection of Claim 1. Accordingly, it is believed that these claims are patentably distinguishable from the Chenoweth reference and Applicant respectfully requests this ground of rejection be removed.

The Examiner has rejected Claims 4, 5, and 27 under 35 U.S.C. §103(a) as being unpatentable over Chenoweth in further view of U.S. Patent No. 6,345,688, issued to Veen. Applicant respectfully traverses this ground of rejection.

The Examiner alleges that Veen teaches a sound-absorbing material composed of fibrous batt of virgin or recycled polyester fibers and that the use of such known fibers in the sound-absorbing material of Chenoweth would have been obvious to one of skill in the art.

Contrary to this assertion, Veen fails to describe the use of cellulose in a sound-absorbing mat as described and claimed by the Applicant. Accordingly, Veen fails to aid the lack of teaching in the Chenoweth reference. Respectfully, Applicant requests this ground of rejection withdrawn. Likewise, Examiner has rejected claim 27, however, Veen fails to aid Chenoweth's lack of teaching of cellulose in the sound-absorbing material. Accordingly, Applicant's attorney respectfully requests this ground of rejection withdrawn as well.

The Examiner has rejected Claims 11, 12, 32, 44, 45, 46, 49, and 50 under 35 U.S.C. §103(a) as being unpatentable over Chenoweth as applied to any previously described claims and further in view of U.S. Patent 3,773,485 to Corsentino. Applicant respectfully traverses this ground of rejection.

With regard to Claims 11 and 12, Chenoweth fails to describe the use of cellulose in making a sound-absorbing mat. The Examiner alleges that Corsentino teaches to provide fiberglass of the type claimed by the Applicant in order to make improved insulating materials. The Examiner is reminded that cellulose is a different material than fibrous wood which is

described in the Chenoweth reference. Accordingly, the Examiner is respectfully requested to withdraw this ground of rejection.

With regard to Claims 32 and 44, as previously described, Corsentino fails to aid the lack of teaching by Chenoweth. Chenoweth fails to teach cellulose utilized in making a sound-absorbing material. Corsentino teaches an apparatus for producing fiber mats mineral fiber. However, the reference fails to describe any use of cellulose in producing such fiber mat. Applicant's attorney respectfully requests these grounds of rejection which are wrong.

With respect to Claims 45, 46, 49, and 50, Applicant again asserts that Corsentino fails to teach use of cellulose in order to form a sound-absorbing material as claimed by the Applicant. Applicant respectfully requests the Examiner to withdraw this ground of rejection.

The Examiner has rejected Claim 20 as being unpatentable over Chenoweth in view of Veen, and further in view of Johnston. Applicant respectfully traverses this ground of rejection.

The Examiner alleges that Johnston evidences that it was well known in the art to use phenol formaldehyde binders in sound-absorbing materials and therefore would have been obvious to one skilled in the art.

However, Johnston, as well as Veen, each failed to teach the use of cellulose as an element in a sound-absorbing material. Accordingly, Applicant respectfully requests this ground of rejection withdrawn. The Examiner has rejected claim 24 under 35 U.S.C. §103 as being unpatentable over Chenoweth in view of U.S. Patent 6,109,389, issued to Hiers. Applicant respectfully traverses this ground of rejection.

The Examiner alleges that Hiers teaches it was known in the acoustical insulation art to provide kaolin clay to increase the density of such products and thus enhance their sound-absorbing ability. However, the Hiers reference fails to teach the use of cellulose and aid the lack of teaching by Chenoweth as alleged by the Examiner. Applicant therefore respectfully requests this ground of rejection withdrawn.

Examiner has rejected Claims 28 and 37 under 35 U.S.C. §103(a) as being unpatentable over Chenoweth in view of U.S. Published Patent Application 2002/0096278, to Foster.

Applicant respectfully traverses this ground of rejection. Examiner alleges that Chenoweth teaches the use of boric acid to provide fire retardancy in sound-absorbing material.

Contrary to the Examiner's allegation, however, the combination of Foster and Chenoweth fail to teach all the elements of the instant claims. Claims 28 and 37 depend from Claim 1 and Claim 32 either directly or indirectly.

### **Commercial Success**

Finally, Applicant directs the Examiner to the 37 CFR § 1.132 declaration attached herewith. The declaration indicates the commercial success derived from the claimed invention. As discussed with the Examiner, the claimed invention is commercially known as QUIETBLEND and was awarded the Premier Automotive Suppliers Contribution to Excellence (PACE) honorary mention in October 2003. These awards cover many components provided by automotive suppliers and are not limited to sound absorbing materials, which makes the honorary mention award that much more impressive. To that end, a letter from the PACE Award providers as well as a news article from Automotive News magazine announcing the award winners as well as honorable mention recipients are included in Appendix A. The letter is dated October 6, 2003 and the news article was published in the October 12, 2003 issue of the Automotive magazine.

Further, the commercial success of the claimed invention is also indicated by the additional automotive manufacturers which began using the QUIETBLEND product since its introduction in the marketplace. Many of the manufacturers were not previously customers of the Assignee, C.T.A. Acoustics, Inc. but became customers due to the improved features of the claimed product QUIETBLEND over the prior art sound absorbing materials. Those manufacturers include General Motors®, Nissan® and Chrysler®. Ford® was also a customer of the Assignee prior to the development of QUIETBLEND but started using the product when it became available.

### **Long-Felt Need**

Further, the fact that these various automotive manufacturers switched from other sound absorbing material providers to QUIETBLEND indicates a long-felt need which was recognized,

persistent and not solved by others. As stated in the application, there has been a need for a material with decreased amounts of fiberglass which is harsh to the users' skin, has good sound absorbing qualities, passes a flame test and passes moisture absorption tests. See page 3, line 8. As discussed during the interview, the pure cellulose has a higher temperature resistance than natural wood chips, which aids with the flame test and inhibits drooping or sagging. In addition, the use of cellulose allows for decreased amounts of fiberglass, which is known to be irritating to users' skin. Finally, the use of pure cellulose serves to inhibit wicking of moisture and is mixable with kaolin clay to therefore improve moisture absorption tests.

The fact that various automotive manufacturers turned to QUIETBLEND and have continued to utilize the material indicates that the long-felt need was not satisfied by others before the invention by Applicant and that the invention has satisfied the long-felt need.

Accordingly, these claims are also believed to be in condition for allowance.

### **CONCLUSION**

Applicant believes that the pending application is now in condition for allowance. However, if the Examiner believes there are other unresolved issues in this case, Applicants' attorney of record would appreciate a call at (502) 584-1135 to discuss such remaining issues.

DATED: January 30, 2007

Respectfully submitted,

**MIDDLETON REUTLINGER**

/James E. Cole/

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	:
Bargo	:
Serial No.: 10/660,956	:
	:
Filed: 9/12/2003	: Examiner: Davis, Jenna
For: Improved Sound Absorbing	: Group Art Unit: 1771
Material and Process	:
For Making	:

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DECLARATION OF MATHEW BARGO II UNDER 37 CFR § 1.132

I, Matthew Bargo, hereby state:

- (1) From about 1976 until now, I have been employed by C.T.A. Acoustics, Inc. (formerly Certain Teed Acoustics). My current title is Vice President of Research and Development and Advanced Manufacturing. My job responsibilities include developing new products, improving existing products and processes and verifying performance for entry into the marketplace. Unless otherwise indicated, I have personal knowledge of the facts stated herein.
- (2) QUIETBLEND product is the claimed invention subject of the pending claim set in Application Serial No. 10/660,956, of which I am the named inventor.
- (3) C.T.A. Acoustics, Inc. was awarded a Premier Automotive Suppliers' Contribution to Excellence (PACE) Honorary Mention award in October 2003. The Honorary Mention was awarded for CTA Acoustics, Inc.'s QUIETBLEND product, the claimed invention.
- (4) A copy of the award letter from PACE to C.T.A. Acoustics, Inc. is included with this Declaration. (Appendix A)

(5) A copy of the October 13, 2003 article recognizing C.T.A. Acoustics, Inc, as well as other award winners, from Automotive News is included with the Declaration. (Appendix B)

(6) Since the commercial introduction of the claimed invention, QUIETBLEND, into the marketplace, various manufacturers have started utilizing QUIETBLEND in their automotive manufacturing processes.

(7) The manufacturers include Nissan®, Chrysler® and General Motors®. These manufacturers began using the claimed invention, QUIETBLEND, because of its superior performance versus prior art sound absorbing materials, not because of mere advertising. Further, the commercial success is believed to flow from the functions and advantages disclosed or inherent in the application.

(8) As well, Ford® was an existing customer of C.T.A. Acoustics, Inc. and began using the claimed invention, QUIETBLEND, in its product.

(9) An article from November 2003 issue of Society of Automotive Engineer (SAE) magazine "Automotive Engineering International" (AEI) describes the product. For purpose of full disclosure, it is noted that the article mistakenly alleges the product to be patented at time of publishing.

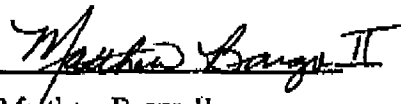
(10) A copy of the November 2003 AEI article is provided herewith and is located in Appendix C.

(10) As a result of the various newly obtained and maintained contracts with the previously mentioned automotive manufacturers, the claimed invention, QUIETBLEND, is believed to satisfy a long-felt need which was recognized, persistent, and not solved by others.

(11) I hereby declare that all statements made herein of my own knowledge are true and that all

statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date: January 25, 2007

  
Matthew Bargo II

Appl. No.: 10/660,956  
Atty Docket: zh380/95001  
Inventor: Bargo

## APPENDIX A



**PACE**  
A W A R D



October 6, 2003

Clifford A. Hodge, Director, Program Mgmt & Mat'l Eng  
CTA Acoustics, Inc.  
25211 Dequindre Rd.  
Madison Heights, MI 48071

**RE: QuietBlend™**

Dear Clifford A. Hodge:

***Congratulations!*** CTA Acoustics, Inc. was awarded an honorable mention for your entry in the 2004 Automotive News PACE™ Awards Program, jointly presented by Cap Gemini Ernst & Young, Transportation Research Center Inc. (TRC Inc.) and *Automotive News*.

The large number of qualified nominees presented the judges with an impressive field of contenders that made the selection process particularly challenging. Given the high caliber of the nominees, being named an honorable mention is a true distinction. You and every person in your company can take great pride in having achieved this level of recognition. Honorable mentions do not contend for the final Automotive News PACE Award, but are recognized as exceptional contributors to innovation in the automotive industry.

*Automotive News*, Cap Gemini Ernst & Young and TRC Inc. will make a formal announcement of finalists and honorable mentions to the media during the week of October 12, 2003. We ask that you not make any external announcements regarding your PACE status until it is announced in *Automotive News*. You are welcome, of course, to share this good news with others in your company.

In addition to receiving national, regional, and local publicity, your company — along with Automotive News PACE Award finalists and award recipients — will be honored at the PACE awards ceremony on **Monday, March 8, 2004**, at the Detroit Opera House in Detroit, Michigan. We hope you and others from your company will be able to join us for this prestigious event.

Once again, congratulations on becoming an Automotive News PACE Award honorable mention. If you have any questions, please call Ellen Dennehy at 313.446.6039 or Keith Ragland at 313.446.0326.

*We look forward to celebrating your continuing success.*

Sincerely,

Peter Brown  
Associate Publisher &  
Editorial Director  
*Automotive News*

Michael Wujciak  
Global Automotive Leader  
Cap Gemini Ernst & Young

R. D. "Rick" Gildow  
President  
Transportation Research Center Inc.

*Ten Years of Automotive Excellence!*

Appl. No.: 10/660,956  
Atty Docket: zh380/95001  
Inventor: Bargo

## APPENDIX B

# Supplier executives press for steel tariff relief

Harry Stoffer

STAFF REPORTER

WASHINGTON — Automotive supplier executives are making noise about damage they say their businesses have suffered because of special tariffs on imported steel. And some believe they are being heard.

"I think the momentum has shifted in a favorable way," says Chris Bates, president of the Motor & Equipment Manufacturers Association, which represents original equipment and aftermarket suppliers. He stopped short of predicting a rollback in the tariffs.

The three-year levy was imposed by the Bush administration in early 2002 to give U.S. steel producers time to

become more competitive.

U.S. Rep. Joe Knollenberg, R-Mich., who sides with the suppliers, says steel users were too quiet before the tariffs were imposed. Now "they are mad as hell," he says.

Knollenberg predicted President Bush will decide in less than a month whether to keep the tariffs, roll them back early or modify the program.

The suppliers say the tariffs, ranging from 8 percent to 30 percent on a variety of steels, led to spikes in steel prices of as much as 50 percent and created supply shortages.

The parts makers say they eat the added costs because automakers won't accept price increases.

Larry Denton, CEO of Dura Automotive Systems Inc., says that even if his employees worked for free, his company could not offset the added cost of steel for a jack that it supplies to Honda at less than \$5 apiece. Steel, which accounts for 76 percent of the production cost of the jack, went up 26 percent, he says.

Denton was one of six supplier executives involved in a lobbying blitz on Washington last week. They visited the Labor and Treasury departments, the office of the U.S. Trade Representative and the White House.

The White House meeting was with a Bush senior adviser, says MEMA lobbyist Ana Lopes.

Others on the trip were: Larry Yost, CEO of ArvinMeritor Inc.; Richard Clayton, president of Textron Fastening Systems; Bill Shaw, president of Means Industries Inc.; Ramzi Hermitz, vice president of Federal-Mogul Corp.; and Russ Harpring, a plant manager for Metaldyne Inc.

The administration promised to review the tariffs' effects about midway through their three-year span.

The administration also may choose to take action before the World Trade Organization is scheduled to rule on the legality of the Bush tariffs next month. The trade-regulating body is expected to reject a U.S. appeal of a WTO ruling that the tariffs violate

trade rules. The administration remains in a difficult spot politically. Some analysts believe it imposed the tariffs to build support for Bush in steel-producing states before his reelection bid next year. A tariff rollback likely would reverse any gains.

Steel producers argue that the tariffs are working and should not be ended. But the drop in manufacturing employment throughout the economy has led the administration to announce steps to stem the losses and ask manufacturers what else it can do.

"The first thing is repeal the tariffs," Knollenberg says. "That would help the economy." ENR

## Hybrids, fuel cells to star at Tokyo show

### Automakers strive for higher volume

Yuzo Yamaguchi

STAFF REPORTER

TOKYO — Hybrid powertrains, which Japanese automakers have pushed into the market faster than their American and European rivals, will play a starring role at this year's Tokyo Motor Show.

To a certain extent, that technology theme will be a repeat of the Tokyo show of 2001. But as Japanese automakers move into the second and third generations of hybrid and fuel-cell powertrains, they are exploring ways to move the technology out of small demonstration vehicles and into higher-volume platforms.

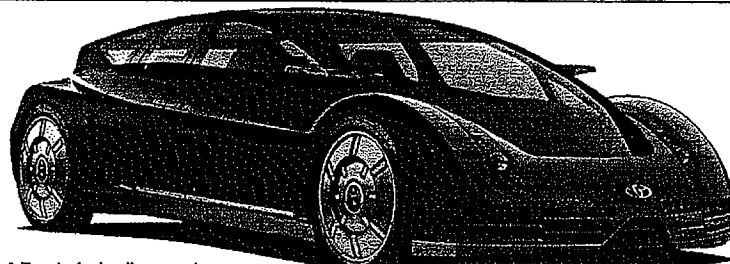
The curtain goes up on this year's Tokyo show on Oct. 22 for the press and Oct. 25 for the public.

Fuji Heavy Industries Ltd. will be among those showing a new hybrid system.

The maker of Subaru cars gave a peek at its new powertrain at a technology showcase held on Oct. 6 by General Motors, which owns 20 percent of Fuji Heavy. Fuji's hybrid mates a 100-kilowatt electric motor to a 2.0-liter engine.

But other makers are keeping details of their Tokyo concepts secret.

The October issue of *New Model Magazine-X*, a Japanese magazine devoted to spy shots of upcoming cars, contains its version of an unauthorized preview of concepts from Toyota Motor Corp. and Honda Motor Co.



A Toyota fuel cell concept for the Tokyo show as depicted by a Japanese car magazine.

NEW MODEL MAGAZINE-X

The expectation from Toyota is a four-seat, fuel cell-powered coupe based on the Fine-S concept shown at the 2003 Detroit auto show, with the fuel cell packaged under the vehicle's floor for a low center of gravity.

Less is known about the Honda concept, except that it is a sporty hybrid with a round nose and vertical headlights.

Among the Big 3, General Motors will show several concept and production vehicles for the first time in Asia but will not stage any world debuts, spokesman Klaus-Peter Martin says.

Ford Motor Co. will stage the Japanese debut of the Ford Fiesta. The vehicle, which has been on sale in Europe for about two years, will go on sale in Japan following the show. There are no styling changes slated for Japan, although the car has been adjusted to comply with Japanese regulations.

The Chrysler group will show fuel cell technology in a radical Jeep concept. ENR

Staff reporters Dave Guilford and Amy Wilson in Detroit contributed to this report

## 23 finalists named for 10th annual PACE Awards

DETROIT — Innovation, in products and processes, is at the heart of the Automotive News PACE Awards for original equipment suppliers.

Twenty-three finalists have been selected for the 2004 awards. Winners of the 10th annual program will be announced on March 8, 2004, in Detroit. Winners will be selected by an independent panel of judges who will visit each site.

The PACE awards are co-sponsored by Cap Gemini Ernst & Young and the Transportation Research Center Inc. PACE stands for Premier Automotive Suppliers' Contribution to Excellence.

Here are the categories, finalists and their innovations. More information on the innovations will be featured weekly in our February issues.

### PRODUCT

**Techform Products Ltd.**  
Penetanguishene, Ontario  
For: Tailgate assist torque rod

**Motorola Semiconductor Products Sector**  
Tempe, Ariz.  
For: Three-dimensional electric field imaging integrated circuit

**Delphi Delco Electronics Systems**  
Kokomo, Ind.  
For: Delphi Forewarn backup aid and side alert

**Denso Corp.**  
Kariya-City, Japan  
For: High-pressure solenoid fuel-injection system

**Johnson Controls Automotive Group**  
Plymouth, Mich.  
For: Overhead rail vehicle-personalization system

**Dura Automotive Systems**  
Rochester Hills, Mich.  
For: Rack lift window lift system

**Visteon Corp.**  
Dearborn, Mich.

For: Long-life filtration systems

**Solutia Automotive**  
Troy, Mich.  
For: Vanceva Quiet plastic interlayer for laminated glass

### PROCESS

**Motoman Inc.**  
West Carrollton, Ohio  
For: Multiple robot control and Autonomous Robot Cell

**BASF Coatings**  
Southfield, Mich.  
For: ColorCARE color matching system

**Filter Specialists Inc.**  
Michigan City, Ind.  
For: FERRX 5000 filter

**DuPont Automotive Coatings**  
Troy, Mich.  
For: Wet on Wet two-tone paint system

**Decoma International & GE Co.**  
Concord, Ontario  
For: URSA Minor for AS 4700

**Intertec Systems**  
Troy, Mich.  
For: High-performance integration

## 12 companies receive honorable mentions

### PRODUCT

**CTA Acoustics Inc.**  
Madison Heights, Mich.  
For: QuietBlend Insulation

**Tenneco Automotive Inc.**  
Lake Forest, Ill.  
For: Automotive exhaust Isolator system and tunable muffler shell (two entries)

**Visteon Corp.**  
Dearborn, Mich.  
For: TACNET module for police cars

**Decoma Product and Process Development**  
Concord, Ontario  
For: Multi-functional truck tonneau

**Collins & Alkman Corp.**  
Troy, Mich.

For: ACE Fused Fiberinsulation

### PROCESS

**Henkel Surface Technologies**  
Madison Heights, Mich.  
For: Environmentally friendly chemistry for cleaning waterborne paint application equipment

**ABB Inc. Paint Process Automation**  
Auburn Hills, Mich.  
For: Multicolor powder paint electrostatic application with ABB internal charging guns

**Henkel KgaA**  
Dusseldorf, Germany  
For: Locite Fluid Waveform Analyzer Signature Series to monitor flow quality of materials

### INFORMATION TECHNOLOGY

**EaglePicher Automotive Hillsdale Division**  
Hillsdale, Mich.  
For: Damper Design Suite software

**PRODUCT — EUROPE**

**Delphi Corp.**  
Troy, Mich., and Bad Salzdetfurth, Germany  
For: Set-top box for mobile TV reception

**ITT Industries Fluid Handling Div.**  
Auburn Hills, Mich., and Hockenheim, Germany  
For: Fusion Bonded Connector

**Hella KG Hueck & Co.**  
Lippstadt, Germany  
For: Intelligent Battery Sensor

instrument panel

**Metaldyne Corp.**  
Plymouth, Mich.  
For: Flexible manufacturing process for front engine cover

### INFORMATION TECHNOLOGY

**I2 Technologies Inc.**  
Southfield, Mich.  
For: I2 Service Parts Management system

**Schneider Logistics Inc.**  
Green Bay, Wis.  
For: SUMIT collaborative visibility

network

**Motorola Inc.**  
Schaumburg, Ill.  
For: VIAMOTO location software for cell phones

**AutoForm**  
Troy, Mich.  
For: AutoForm-DieDesigner software

**Delphi Corp. — Saginaw Steering Systems**  
Saginaw, Mich.  
For: Horizontal modeling and digital process design for CAD/CAM

**PRODUCT — EUROPE**

**Goodyear Tire & Rubber Co.**  
Akron, Ohio and Colmar-Berg, Luxembourg  
For: Goodyear Eagle F1 GS-D3 tire

**Valeo Systems Electronics**  
Cedex, France  
For: Achieving start-stop with 14-volt reversible starter-alternator

**TRW Automotive Inc.**  
Livonia, Mich., and Alford, Germany  
For: Active Control Retractor for seat belts

Appl. No.: 10/660,956  
Atty Docket: zh380/95001  
Inventor: Bargo

## APPENDIX C



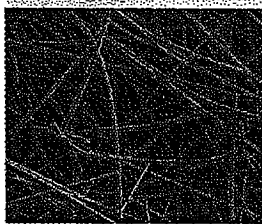
## CTA keeps Super Duty noise down

A patented blend of man-made and natural fibers debuts on the 2004 Ford F-250 and Super Duty trucks as an acoustic and thermal hoodliner.

"QuietBlend contains polyester, cellulosic fiber, fiberglass, and binding agents. This mixture was achieved after evaluating over a dozen candidate products and almost a hundred line trials, acoustical tests, and thermal evaluation," said Clifford Hodge, Director of Program Management and Material Engineering for CTA Acoustics, Inc., a privately held supplier of acoustical and thermal insulation products.

Typical hoodliners use a binding agent and resinated cotton, polyester, foam, or fiberglass. (The 2003 F-250 hoodliner was fiberglass.) "CTA specifically has used fiberglass and resinated cotton in the past," noted Hodge, pointing out that those materials have limitations, such as water absorption, low temperature resistance, skin irritation, and poor durability. "QuietBlend is next-generation in that it combines several of those materials and adds others to eliminate the weaknesses while combining the strengths of the individual materials it contains."

QuietBlend's performance aspects are multi-faceted. "It has 15 to 25% greater acoustical absorption than fiberglass, polyester, or cotton insulators. It has high temperature




QuietBlend from CTA Acoustics is a patented blend of man-made and natural fibers that provides thermal and acoustical insulation.



CTA Acoustics' QuietBlend exceeds the performance of current acoustical absorption products for automotive underhood and underbody applications.

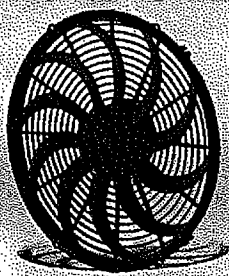
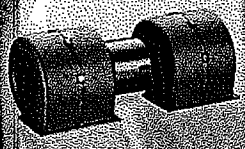


The 2004 Ford F-250 features a hoodliner made from QuietBlend.




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resistance: 650°F (340°C) without special treatments, 1000+°F (540+°C) with special surface treatments. It is resistant to absorption of water, gasoline, oil, and other engine fluids. Its superior performance allows weight reductions or absorption increases at comparable cost. And its high-heat attenuation permits use as a simultaneous acoustical and thermal insulator," according to Hodge.

A unique production format is employed. "Mats are made on a patented blending and airway process in which the various fibrous products are mixed," said Hodge. Binding agents are introduced, and the entire matrix is blended via a continuous line operation that outputs more than 1000 lb (455 kg) of product per hour "in mats specific to the width and thickness needed for each product. Products are molded using heated compression molds [that] in most cases [are] the same unmodified tools as the products being replaced," Hodge explained.

QuietBlend will be manufactured in Corbin, KY, at facilities that include manufacturing plants for blending, mat, and molding operations. CTA Acoustics' QuietBlend is appropriate for various applications, including wheel well, fender, underbody, trunk/cargo, and trim panel insulators.

Kami Buchholz